

USDA Foreign Agricultural Service

# GAIN Report

Global Agricultural Information Network

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**Report Highlights:**

Mozambique is now in a position to start research trails of Genetically Engineered (GE) agricultural crops, after the Council of Ministers approved amendments to the Biosafety Regulations at the end of 2014. This is a success story for the Foreign Agricultural Services (FAS) offices in Pretoria and Maputo that have put in extra effort to assist Mozambique in various ways to strengthen the liability and redress articles in the Biosafety Regulations.

## SECTION I: EXECUTIVE SUMMARY

Mozambique's agricultural sector is characterized mainly by subsistence farming. About 80 percent of the population (estimated at 23 million) is active in agriculture. Of this, only 10 percent is involved in commercial farming and the remaining 90 percent can be classified as subsistence farmers. Over 80 percent of the total cultivated area is used for production of staple food crops for self-consumption, including cassava, corn, rice, sorghum and pulses.

Mozambique's exports of agricultural, fish and forestry products to the United States were valued at US\$22.0 million in 2014, a 9 percent increase from the previous year, due to an increase in the exports of sugar cane. Cashew nuts (US\$12.4 million or 56 percent of total agricultural exports to the United States), sugar cane (US\$7.9 million), and tobacco (US\$1.3 million) were the major items exported to the United States.

Mozambique's imports of agricultural, fish and forestry products from the United States decreased by 42 percent to US\$19.9 million in 2014. The decrease in imports was due primarily to an 80 percent and 60 percent decline in wheat and soybean oil imports, respectively. Other intermediate products (US\$9.2 million), soybean oil (US\$6.0 million) and poultry products (US\$1.7 million) were the major products imported from the United States by Mozambique in 2014.

Mozambique has a Regulation on Biosafety related to the management of Genetically Modified Organisms (Decree no. 6/2007, of April 25) in place. However, due to certain limitations in the regulations, the Minister of Science and Technology (MST) requested a complete review of the Decree. The review, which was finalized in December 2011, recommended complementing biosafety rules that will contribute to the establishment of an operational biosafety regulatory framework in Mozambique. Later in 2012, another review was done by the African Biosafety Network of Expertise (ABNE) to strengthen the liability and redress articles of the draft regulations. The revised Decree with complementary rules was submitted to the MST and its legal team later in 2013.

FAS/Maputo worked for the last three years with Mozambique's Inter-Institutional Working Group for Biosafety (GIIBS) to achieve part of Secretary's Vilsack commitment to Minister of Agriculture José Pacheco at the World Food Prize Conference in September 2011, to assist the government in developing a strong regulatory framework for the management of GE crops in order to improve productivity in the agricultural sector.

Among other efforts, funded by biotechnology resources from the Department of State's Economic Bureau (EB), FAS/Maputo facilitated the trip of a legal expert from the African Biosafety Network of Expertise (ABNE) to Mozambique on September 3-5 2012, to conduct a workshop on biosafety liability and redress. This work resulted in several amendments to the initial Biosafety regulation that was approved late in 2014 and now enables Mozambique to start field trials of GE crops.

CONSELHO DE MINISTROS

**Decreto n.º 71/2014**

**de 28 de Novembro**

necessidade de adequar o Regulamento  
Relativa à Gestão de Organismos Gen  
os, aprovado pelo Decreto no 6/2007 de 2.

Figure 1: Decree no. 71/2014 now enables Mozambique to start field trials of GE crops

## **SECTION II: PLANT AND ANIMAL BIOTECHNOLOGY**

### **CHAPTER 1: PLANT BIOTECHNOLOGY**

#### **PART A: PRODUCTION AND TRADE**

##### **(a) PRODUCT DEVELOPMENT**

Currently, there is not any GE product development taking place in Mozambique. However, Mozambique is a partner country in the Water Efficient Maize for Africa (WEMA) project funded by the Gates and Buffett foundations. It is also foreseen that GE cotton and drought tolerant corn field trials could start within the next few years after the Mozambique government approved the revised Biosafety Legislation.

##### **(b) COMMERCIAL PRODUCTION**

No commercial production of GE crops is currently taking place in Mozambique. Nevertheless, the country has appropriate legislation in place. The revised Biosafety Legislation also clarifies the process of import, export and transit of GE products to specific requirements that include testing samples, as well as, grain import for human consumption and quarantine measures.

##### **(c) EXPORTS**

Mozambique is not exporting any GE crops. However, exports will be regulated by the newly approved Decree. The regulation establishes production sites, transport, identification and labelling.

##### **(d) IMPORTS**

Mozambique does allow for the imports of GE crops intended for direct use as food, feed or for processing but requires authorization from the National Biosafety Authority. The applicant has to submit a report on the risk assessment and management for human health and the environment, including, monitoring measures. The applicant may also be required to submit samples for testing purposes.

##### **(e) FOOD AID RECIPIENT COUNTRY**

The imports of GE products for food aid is generally authorized in emergency situations, but only for commodities destined for human consumption and only if there is no alternative solutions to respond to emergencies on a timely manner. The GE food grains imported need to be processed prior to distribution to the final recipients of food aid, in order to avoid utilization as seed. The import authorization granted is only valid while the emergency is still in effect.

#### **PART B: POLICY**

## **(a) REGULATORY FRAMEWORK**

The government of Mozambique acknowledged the contribution that modern biotechnology can make to meet critical needs for food and nutritional security. At the same time, the government also recognized that the development of modern biotechnology needs to go hand-in-hand with appropriate regulations in order to maximize the benefits while minimizing potential risks.

It is within this context that the Parliament of Mozambique ratified the Cartagena Protocol on Biosafety in 2001 (Resolution no. 11/2001, of December 20th) and created the inter-institutional National Biosafety Working Group (GIIBS - Grupo Inter-Institucional Sobre Bio-Segurança) to coordinate the process of developing National Biosafety Framework for Mozambique. The Ministry of Science and Technology was designated to serve as the National Biosafety Authority. This process culminated in development of the Draft National Biosafety Framework (NBF) published in 2005. The draft NBF was further refined through public consultation process that led to the development of a consolidated document which served as basis for the Decree no. 6/2007, of April 25, containing the Regulation on Biosafety related to Management Regulation.

The objective of the regulation was to establish domestic legislation aimed at regulating GE activities in Mozambique in order to contribute for adequate protection of the environment, biological diversity, and human health. The approval of Decree no. 6/2007 by the Council of Ministers constituted an important landmark towards establishment of enabling environment for safe and responsible application of modern biotechnology in Mozambique.

In 2011, the Ministry of Science and Technology announced that Mozambique intends to revise its regulations on GE products in order to adapt the legislation to the country's current needs. Post was made aware by the Mozambique's Cotton Institute and private sector that companies are hesitant to assist in field trials due to gaps in the liability and redress articles in the Biosafety Regulations. The way the current proposed regulation is written liability for damages would be placed only on the private partner involved in field trials. This issue has caused multinational seed companies to be reluctant to conduct field trials and has stalled confined field trials of a drought-tolerant GE corn variety being developed under the WEMA project funded by the Gates and Buffett foundations.

Currently, GIIBS is tasked to co-ordinate biosafety activities in Mozambique. The Ministry of Science and Technology is the national competent authority and chair GIIBS. GIIBS consists of the representatives seven ministries, namely:

- Ministry of Science and Technology
- Ministry of Agriculture;
- Ministry for Coordination of Environmental Affairs;
- Ministry of Health
- Ministry of Industry and Trade;
- Ministry of Fisheries;
- Ministry of Planning and Development; and

The GIIBS meet on a quarterly basis and representatives from public and private entities and experts may be invited to the meetings of GIIBS. The GIIBS is empowered:

- To advise the government in decision making on safe transfer, handling and use of GE products;
- To coordinate the development and updating of rules that adequately address the country's sustainable development objectives, consistent with the Cartagena Protocol on Biosafety;
- To produce periodical technical reports on the status of the biotechnology and biosafety in Mozambique;
- To ensure the exchange of biosafety information at the national, regional and international levels;
- To promote public awareness and education programs on biotechnology and biosafety at a national level;
- In collaboration with other relevant entities, to evaluate the biosafety component in the applications, proposals and projects related to activities involving GE, based on risk assessment reports, inputs from the public and any other socio-economic considerations;
- To establish technical and scientific requirements for GE development and trials;
- To promote short-, medium- and long term training programs on biotechnology and biosafety; and
- To ensure the monitoring and evaluation of the enforcement of the Regulation.

### **The Essence of the Mozambique Biosafety Regulation**

Mozambique Biosafety Regulation is made up of seventy four articles, covering all aspects of Biosafety related to the management of GE crops. The object of it is described in the second article stating that *“The present regulation establishes Biosafety norms and mechanisms of control of authorization of import, export, transit, research, liberation to the environment, management and use of Genetically Modified Organisms and its derivate, resulted from modern Biotechnology, contributing to the human health safety and environment and, particularly to the conservation of the biological diversity”*. By saying this, Mozambique is included in the few African countries that formally authorize any activity with GE products.

### **The Process to obtain the Authorization**

The Mozambique Biosafety Regulation determines the norms and processes for public and private sector tending to acquire authorization to manage GE products in the country. The process includes application, ministerial dispatch, public advertisement of the decision, and proof of technical and financial competence.

### **Risk Management Evaluation, Confidentiality, Information Fidelity and Responsibility**

This is the chapter in the revised Biosafety Legislation that post has worked with local authorities in elaboration of the document. Previously this chapter was leaving all liability aspects to the investor. It now states that the evaluation of risk of GE products resulted in application of import, export, transit, research, release to the environment, management and use of GE products need to comply with technical and scientific requirements defined by the National Biosafety Working Group (GIIBS - Grupo Inter-Institucional Sobre Bio-Segurança) and approved by the National Biosafety Authority. This chapter also talks on information fidelity, accidents and responsibility. The improvement made to this aspect includes GIIBS collaboration with the operator.

**(b) APPROVALS**

No plants or crops have been approved or registered in Mozambique for cultivation, imports or exports.

**(c) FIELD TESTING**

With the approved Decree, Mozambique Biosafety Regulation allows public and private sector to pursue research of GE crops. This activity is also subject to prior application, field and greenhouses inspection, confined research project submission and monitoring measures and risk control.

**(d) STACKED EVENT APPROVALS**

The Mozambique's Biosafety Legislation does not indicate how it will handle stack events approvals.

**(e) ADDITIONAL REQUIREMENTS**

Not Applicable.

**(f) COEXISTENCE**

There is no specific guideline for coexistence and Mozambique does not have a national organic standard in place.

**(g) LABELING**

Currently, no compulsory labeling of GE products or food containing GE products is necessary.

**(h) TRADE BARRIERS**

There are no biotechnology related trade barriers that negatively affect United States exports to Mozambique.

**(i) INTELLECTUAL PROPERTY RIGHTS**

The last two chapters of the Mozambican Biosafety Regulation discuss confidentiality and intellectual property and public participation and access to information. It protects research information and intellectual property while foresees public participation and information access.

**(j) CARTAGENA PROTOCOL RATIFICATION**

The Parliament of Mozambique ratified the Cartagena Protocol on Biosafety in 2001(Resolution no. 11/2001, of December 20th) and created GIIBS to co-ordinate biosafety activities in Mozambique.

**(k) INTERNATIONAL TREATIE/FOR A**

Mozambique is a signatory member of *inter alia*:

- The Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization (WTO-SPS)
- Codex Alimentarius Commission (Codex)
- International Plant Protection Convention (IPPC) of the Food and Agricultural Organization (FAO)

#### **(l) RELATED ISSUES**

There are no other issues related to plant biotechnology that are not captured under the current headings.

#### **(m) MONITORING AND TESTING**

There is no system in place for testing and monitoring of GE products.

#### **(n) LOW LEVEL PRESENCE POLICY**

There is currently no low level presence policy in Mozambique.

### **PART C: MARKETING**

#### **(a) MARKET ACCEPTANCE**

If BT cotton and drought tolerant corn seed become available, post does not foresee any rejection from the subsistence and commercial farmers, as the farmers have requested this technology for a long time.

#### **(b) PUBLIC/PRIVATE OPINIONS**

Most people in Mozambique are not aware about the technology. However, among scientist and the government there is support for it.

#### **(c) MARKETING STUDIES**

Post is not aware of any marketing studies on GE products conducted in Mozambique.

### **PART D: CAPACITY BUILDING AND OUTREACH**

#### **(a) ACTIVITIES**

**The Plant Biotechnology and Biosafety Workshop (April 8-12, 2013):** Through funding from the United States government, post facilitated the participation of the Director of the Mozambique Cotton

Institute, a Cotton Institute technician and the advisor in the Ministry of Environment Affairs, in a Biotechnology and Biosafety for African Countries workshop in Brazil. The Brazilian Agency for Cooperation, the U.S. Department of Agriculture, Embrapa, with support of the Ministry of Agriculture, Livestock and Food Supply, the National Biosafety Committee, the Center for Environmental Risk Assessment, and Brazil's Biotechnology Information Council were involved in the workshop. Participants included policymakers and producers from Egypt, Ghana, Kenya, Malawi, Mozambique, Nigeria, and Uganda.

**International Biotechnology Symposium (May 22-24, 2013):** An International Biotechnology Symposium took place in May 2013 in Maputo. The symposium's aim was to discuss and exchange experiences in biotechnology, particularly in the context of developing countries. Participants included scientists, academics, policy makers, entrepreneurs, and organizations involved in biotechnology activities. Through funding from the United States government, post brought Dr. Karim Maredia from the Michigan State University as key note speaker. Dr. Karim's presentation covered the United States' experience with GE crops and shared various possibilities of training in biotechnology available for Mozambican citizens.

**Cochran Fellowship Program (August 3-10, 2013):** Under the Cochran Fellowships Program post coordinated the training of two biotechnology technicians at the Michigan State University. One participant is working at the Biotechnology Center of the University Eduardo Mondlane and the other at the Ministry of Science and Technology.

**Biotech Outreach (March 9-12, 2014):** Ms. Zhulieta Willbrand, International Trade Specialist from the Office of Agreements and Scientific Affairs in the Foreign Agricultural Services agency of the United States Department of Agriculture attended a biotechnology workshop in Mozambique. The biotechnology workshop was organized by a local university in Maputo, the UEM. The workshop gathered the majority of biotechnology stakeholders in Mozambique and was officially opened by the Minister of Science and Technology. Many papers about biotechnology were presented. Ms. Willbrand also met the Minister of Science and Technology, the Mozambique Cotton Institute Director, as well as the, Brazilian Cooperation Agency in Mozambique to discuss possible future collaboration.

**Capacity Building (July 5-20, 2014):** Post/Mozambique accompanied six South African small-scale farmers to an Emerging Farmer Biotechnology Training course at the School of Agriculture and Natural Resources of the Missouri State University as part of the Cochran Fellowship Program. The farmers were exposed to plant transformation (GE), novel irrigation, soil health, no-till farming, pest control technologies, as well as, biosafety and regulatory processes in the United States. The two-week training course was a unique exchange opportunity to meet and interact with different farmer organizations and crop value chains in the United States.

**Capacity Building (September-November, 2014):** Post sent a scientist from the Mozambique Cotton Institute to Michigan State University to be trained on BT Cotton under the Borlaug Fellowship program.

**Capacity Building (September, 2014):** A technician from the Ministry of Science and Technology attended a Biosafety Training Course at the Michigan State University.

**Capacity Building (July 18, 2015):** Under FAS Borlaug Fellowship Program, one Mozambican from the National Research Institute was selected to attend training on BT cotton in Michigan State University.

**(b) STRATEGIES AND NEEDS**

FAS/Pretoria's short term goals for biotechnology in Mozambique include:

- To seek opportunities for additional resources through the State EB biotech program, EMP funding, and other available funding sources to raise awareness of the benefits of biotechnology and the development of science-based regulatory systems in Mozambique.
- Collaborate with other like-minded countries such as Brazil, Argentina, and South Africa on outreach and training activities.
- To facilitate the advancement of biotech cotton and drought-tolerant corn field trials in Mozambique.

Additionally, outreach to small scale farmers on the benefits of biotechnology should also be a focus. Expanding this outreach to include consumer groups and the general public could achieve greater understanding and acceptance of biotechnology.